AMENDMENTS TO THE CLAIMS

1. (Withdrawn) In a process for producing microchannels in a device having a substrate with etched microchannels bonded to a top plate, the improvement comprising:

annealing the bonded device to allow surface tension forces and diffusional effects to lower the overall energy of the microchannels by transforming the cross-section to a circular shape.

2. (Withdrawn) The process of Claim 1, additionally included bonding the substrate and top plate by a method selected from the group consisting of fusion bonding and anodic bonding.

3. (Withdrawn) The process of Claim 1, additionally including providing the substrate and/or the top plate from materials selected form the group consisting of glass, silicon and polymer.

4. (Withdrawn) The process of Claim 1, wherein the substrate and top plate are composed of glass, and wherein the bonding in carried out by fusion or anodic bonding.

5. (Withdrawn) The process of Claim 1, wherein the substrate is composed of glass and the top plate is composed of silicon, and wherein the bonding is carried out by anodic bonding.

6. (Withdrawn) The process of Claim 1, wherein the substrate and top plate are composed of glass, and wherein annealing is carried out at a temperature of 600^{0}to 800^{0}C for a time period of 2 to 24 hrs.

7. (Withdrawn) A method for producing microchannels having no sharp corners in glass, comprising:

isotropically etching at least one channel into a glass substrate,

bonding a glass plate to the substrate to produce at least one sealed microchannel therein, and

annealing the bonded glass plate and substrate causing transformation of the microchannel cross-section into at least a curved configuration without sharp corners.

8. (Withdrawn) The method of Claim 7, wherein annealing is carried out so as to produce a curved configuration of a substantially circular type.

9. (Withdrawn) The method of Claim 8, wherein the annealing is carried out at a temperature of 600^0 to 800^{0}C for a time period of 2 to 24 hrs.

10. (Withdrawn) The method of Claim 7, wherein the bonding is carried out by a process selected from the group consisting of fusion bonding and anodic bonding.

11. (Currently Amended) An apparatus having a sealed open microchannel therein, ~~produced by the method~~ comprising:

an etched open substrate,

an etched open microchannel in said etched substrate,

an annealed substrate positioned on said etched substrate that covers said etched microchannel in said etched substrate,

an annealed open ~~microchanel~~ microchannel ~~that has been produced by annealing~~ in said annealed substrate over said etched microchannel in said etched substrate, and

a bond connecting said etched substrate to said annealed substrate, wherein said etched open microchannel and said annealed open microchannel comprise said sealed open microchannel.

12. (Previously Presented) The apparatus of Claim 11, wherein said annealed microchannel is a high temperature annealed microchannel annealed in the 600° to 800° range.

13. (Previously Presented) The apparatus of Claim 11, wherein said etched microchannel in said etched substrate and said microchannel in said annealed substrate form a circular microchannel.

14. (Currently Amended) The apparatus of Claim 11, wherein said etched substrate and said annealed substrate are selected from the group consisting of glass ~~members~~, ~~glass and~~ silicon ~~members~~, ~~glass and polymer members,~~ and ~~members selected from the group of glass, silicon and~~ polymers, and mixtures thereof.

15. (Previously Presented) The apparatus of Claim 11, wherein said bond comprises fusion or anodic bonding.

16. (Previously Presented) The apparatus of Claim 11, wherein said annealed microchannel has depth of about 10 μm and a width of about 20 μm and said annealed microchannel is a high temperature annealed microchannel annealed in the 600° to 800° range.